minutes to the full heat of the furnace, and brought to the highest temperature attainable. Then an ore addition of 820 kilogrammes or only 4*1 per cent, was made. The composition of the metal and slag changed as follows :—

	Metal.				Slag.					
	C	Mn	Si	P	Fe	FeO	Fe203	PaOfi	Mn	Si02
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per-cent.
Without ore added	3-76	2-48	0-18	0-14	1-72	2-21	—	005	2-94	35-80
After 25 minutes' action of 4'1 per cent, ore . . J	2-98	0-87	0'05	0-06	10-85	12-05	2:11	2-29	18-97	22-90

One sees clearly from both examples that the action on the agents Si, Mn and P is much more powerful than the action on the carbon.

Dr. Ing. Th. Naske gives in the foregoing, p. 232, Table IX., an example of the action of molten pig iron on such strongly preheated ore that the same was fused into iron-lime slag. In the reaction there were employed 17,843 kilogrammes molten pig iron, and 3,280 kilogrammes = 19 per cent, ore, and 820 kilogrammes limestone. The reaction was very lively ; the pouring in of the pig iron was obliged to be very slowly performed.

The pig iron contained at 1*20 on being poured in—

G 3-90 per cent., Si 1*03 per cent., Mn 1*56 per cent., P 014 per cent.

and after fifteen minutes action at 1*35—

C 3'35 per cent., Si 0'05 per cent., Mn 0*28 per cent., P O'Ol per cent.

Here again the removal of carbon is small, in spite of which one would conclude that an energetic action on the carbon occurred from the very violent evolution of gas during the pouring in of the iron.

A number of similar experiments yield a like result and demonstrate that with the means at disposal in the open-hearbh